



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,376	03/21/2001	Garry Holcomb	16458.050	3939

28286 7590 03/24/2003

IP PATENTS  
FAEGRE & BENSON LLP  
1900 FIFTEENTH STREET  
BOULDER, CO 80302

EXAMINER

STRIMBU, GREGORY J

ART UNIT	PAPER NUMBER
----------	--------------

3634

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

51

<b>Office Action Summary</b>	<b>Application No.</b> 09/815,376	<b>Applicant(s)</b> HOLCOMB ET AL.	
	<b>Examiner</b> Gregory J. Strimbu	<b>Art Unit</b> 3634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other:  |

***Specification***

The abstract of the disclosure is objected to because "method" on line 1 is confusing since it is unclear what type of method the applicant is referring to. Is the applicant referring to a method of use? On line 3, "a load lock chamber" is confusing since it is unclear if the applicant is referring to the load lock chamber set forth above or is attempting to set forth another chamber in addition to the one set forth above. On line 4, "provides" is confusing since it is unclear what element of the invention provides the control signals the applicant is referring to. On line 4, it is suggested that the applicant change "from" to --between-- and "into" to --and-- to avoid confusion. On line 5, "between ambient atmosphere is grammatically awkward and confusing. On line 6, "transducer" is confusing since it is unclear if the applicant is referring to the transducer apparatus set forth above or is attempting to set forth a transducer in addition to the apparatus set forth above. On line 7, "of load lock chamber pressure" is grammatically awkward and confusing. Finally, it is suggested that the applicant amend the abstract to more clearly set forth the environment in which the transducer apparatus is utilized. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Recitations such as "In load lock apparatus" on line 1 of claim 1 render the claims indefinite because they are grammatically incorrect and confusing. Recitations such as "(1)" on line 3 should be deleted to avoid confusion. Recitations such as "pressure in the manifold" on line 17 of claim 1 render the claims indefinite because it is unclear if the applicant is referring to the pressure in the manifold set forth above or is attempting to set forth another pressure in the manifold in addition to the one set forth above. Recitations such as "capable of sensing absolute pressure" on line 20 of claim 1 render the claims indefinite because it is unclear what element of the invention has the absolute pressure the applicant is referring to. Recitations such as "the to the" on line 32 of claim 1 render the claims indefinite because they are grammatically incorrect.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

It should be noted that claims 4-7 have been interpreted as reciting only the subcombination of the combination differential and absolute pressure transducer apparatus. Accordingly, claims 4 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Eberhardt et al. Eberhardt et al. discloses a combination differential and absolute pressure transducer apparatus comprising a differential pressure sensor 34 that is capable of sensing a pressure difference between a first side of the differential

Art Unit: 3634

pressure sensor and a second side of the differential pressure sensor, the differential pressure sensor being connected in fluid flow relation to the load lock chamber 14 and mounted such that the first side is exposed to the ambient atmospheric pressure in a room and such that the second side is exposed to pressure in the load lock chamber, a differential pressure transducer circuit (not numbered, but see column 15, line 21) connected to the differential pressure sensor and which is capable of generating an exterior door control signal at a preset differential pressure value, an absolute pressure sensor 36 that is capable of sensing absolute pressure, the absolute pressure sensor being connected in fluid flow relation to the load lock chamber 14 in such a manner that the absolute pressure sensor is exposed to pressure in the load lock chamber, an absolute pressure transducer circuit (not numbered, but see column 15, line 21) connected to the absolute pressure sensor and which is capable of generating an interior door control signal at a preset absolute pressure value.

***Claim Rejections - 35 USC § 103***

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhardt et al. as applied to claims 4 and 5 above, and further in view of Stocker. Stocker discloses an absolute pressure sensor comprising a pirani sensor.

It would have been obvious to one of ordinary skill in the art to provide Eberhardt et al. with a pirani sensor, as taught by Stocker, to increase the accuracy of the absolute pressure sensor.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhardt et al. as applied to claims 4 and 5 above, and further in view of Gianchandani.

Gianchandani discloses a capacitance manometer pressure sensor.

It would have been obvious to one of ordinary skill in the art to provide Eberhardt et al. with a capacitance manometer pressure sensor, as taught by Gianchandani, to increase the accuracy of the differential pressure sensor.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brucker, Ferenczi et al. and Rannenberg et al. are cited for disclosing the use of pressure sensors to control the pressure in a chamber. Kato et al., Nakagawa et al., Shirai, Kroeker, Fukasawa et al. and Arii are cited for disclosing a load lock having at least two doors.

#### ***Allowable Subject Matter***

Claims 1-3, 8 and 9 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, absent applicant's own disclosure, fails to teach the entire combination of elements set forth in the claimed invention. Specifically, the prior art of record fails to teach the combination of a load lock apparatus having a combination differential and absolute pressure transducer with a manifold connected in fluid flow relation to the load lock chamber, a differential pressure sensor such that the

Art Unit: 3634

first side is exposed to the ambient atmospheric pressure in the room and the second side is exposed to the pressure in the manifold, an absolute pressure sensor being connected to the manifold such that the absolute pressure sensor is exposed to the pressure in the manifold, an exterior door control link connected between the differential pressure transducer circuit and the exterior door actuator, and an interior door control link connected between the absolute pressure transducer circuit and the interior door actuator. See lines 10-30 of claim 1. The prior art of record also fails to teach a method of automatically controlling a load lock comprising the steps of comparing the differential pressure reference voltage to the transducer voltage that corresponds in value to the differential pressure, and, when the transduced voltage equals the differential pressure reference voltage, producing the exterior door control signal and delivering the exterior door control signal to the exterior door actuator and comparing the absolute pressure reference voltage to the transduced voltage that corresponds in value to the absolute pressure, and, when the transduced voltage equals the absolute pressure reference voltage, producing the exterior door control signal and delivering the interior door control signal to the interior door actuator. See lines 16-19 and 30-33 of claim 8 and lines 13-16 and 18-21.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory J. Strimbu whose telephone number is 703-305-3979. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

Art Unit: 3634

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 703-308-2686. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3597 for regular communications and 703-305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.

A handwritten signature in black ink, appearing to read "Gregory J. Strimbu", with a long horizontal flourish extending to the right.

Gregory J. Strimbu  
Primary Examiner  
Art Unit 3634  
March 12, 2003